

StereoSAR DEM for Mapping of Geological Structures in Selangor, Malaysia

NORAINI SURIP & GEOFF TAYLOR

Department of Applied Geology
University of New South Wales, Australia

Radar is ideally suited for the study of tropical countries, which have extensive cloud cover. These countries are usually heavily vegetated and although radar does not penetrate the vegetation cover, its sensitivity to subtle topographic features means that geological structures are clearly visible. Stereo radar images can also be used to generate a Digital Elevation Model (DEM). Images acquired with Radarsat modes S2 and S7 were used to generate a DEM for Selangor, Malaysia. The resultant DEM shows that Selangor can be divided into two sub-areas comprising rugged hills to the east and a flat, coastal, plain to the west. The topography was enhanced by applying a synthetic sun illumination to the DEM with elevation of 60° and azimuths of 030°, 120°, 210°, and 300°, respectively. From this image the topography was used to interpret geological lineaments. Three major directions trending between 240°–300°, 285°–330° and 350°–045° are identified. These features are present in both the flat regions and the hilly regions and represent a pervasive regional structural trend.
